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ABSTRACT

The purpose of this research was to determine whether a study skills course would significantly affect the grades of participating students, and whether this course would significantly affect the attitudes towards college of participating students. Subjects were 44 freshmen. Groups of 22 students were formed using a matched pairs sampling technique. The experimental group received an eight-hour course on study skills. The control group received no treatment. Academic achievement was measured by mid semester. Chi square tests were utilized. Findings indicate that the experimental group had higher academic achievement than did the control group. Attitude towards college was measured by the Brown-Holtzman Survey of Study Habits and Attitudes (SSHA). A t-test was utilized. Findings indicated that the experimental group had a better attitude than did the control group. Recommendations made as a result of this research include: (1) that a study skills course be offered; (2) that entering freshmen with probable academic difficulty be required to take it; (3) that others be encouraged to take it; and (4) that further research be conducted. (Author)

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# The Effects of a Study Skills Course on Student Attitudes and Grades

Curriculum Development

by

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York College of Pennsylvania

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EASTERN PENNSYLVANIA

A PRACTICUM PRESENTED TO NOVA UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF EDUCATION

NOVA UNIVERSITY

November 1977

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## ABSTRACT

A Research Practicum Presented to Nova University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

# THE EFFECTS OF A STUDY SKILLS COURSE ON STUDENT ATTITUDES AND GRADES

by

James G. Troutman

November 1977

CURRICULUM DEVELOPMENT EASTERN PENNSYLVANIA

York College of Pennsylvania has an "open door" admissions policy. As a result of this policy students with varying backgrounds and abilities are matriculated at the college. Many students enter who lack the study skills necessary to be successful in college. The purpose of this research was two fold; first, to examine if a study skills course would significantly affect the grades of a participating student, and second, to examine if a study skills course would significantly affect the attitudes towards college of a participating student.

Forty-four first semester freshman resident students volunteered to participate in this research. Two groups of twenty-two students were formed using the matched pairs sampling technique on high school rank, Scholastic Aptitude

Test scores, sex, and intelligence quotients. One group was arbitrarily chosen to be the experimental group receiving an eight-hour course on study skills. The other group became the control group and received no treatment.

Academic achievement was measured by the grades received by the students at mid semester. A chi square test was utilized to compare the difference between the number of credits of below average grades, D's and F's, received by the two groups. A second chi square test was utilized to compare the difference between the number of credits of F grades received by the two groups. In both instances the findings indicated, at a significance level of .05, that the experimental group accomplished higher academic achievement than did the control group.

Attitude towards college was measured by the Brown-Holtzman Survey of Study Habits and Attitudes (SSHA). A t test was utilized to compare the mean pre SSHA post SSHA test differences of the two groups. The findings of the research indicated, at a significance level of .05, that the experimental group had a larger pre-post SSHA test difference, and thus a better attitude, than did the control group.

The recommendations that were made as a result of this research included 1) that a study skills course be offered every fall semester, 2) that entering freshmen with admissions records that indicate probable academic difficulty be required to take a study skills course, 3) that others who desire such a course be encourage to take it, 4) that

different formats and methods of presenting a study skills course be studied, and 5) that further studies be conducted to research the attrition rate of students taking a study skills course and the grade point average after the first semester, the first year, the second year, the third year, and the final year of students taking a study skills course.

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## INTRODUCTION

York College of Pennsylvania has a liberal admission policy. As a result of this policy students with varying backgrounds and abilities are matriculated at the college. Many students lack the necessary academic qualifications and are required to take introductory courses in English and/or mathematics. Many students enter who lack only the study skills necessary to be successful in college. At this time the college curriculum does not offer any courses in this area.

In addition to the student's problem of a need for study skills we are facing a period when national college enrollment is decreasing. Although York College has been fortunate in maintaining its enrollment the college must be prepared to face a decade when reduction in enrollment is anticipated. One method of maintaining enrollments is through reduction of attritions. Call (1976) observed that ultimately fifty-two per cent of recent freshmen classes have eventually "dropped out" from the York College roster before graduation. Many students leave college due to the lack of basic skills which cause academic problems as well as motivational problems. Cope (1968) relates some research conducted by Walker which attributed one-third of college withdraws to academic reasons, one-third to motivational forces and the remaining one-third to financial difficulties.

It was hoped that the results of this research would indicate if a course in study skills would significantly decrease attrition through improving the student's academic abilities and attitudes towards college.

In addition to the benefits to the college of maintaining enrollments the college will also be meeting its moral obligations to its students. The institution will be affording each student the best chance for success in his or her academic pursuit.

## Statement of the Problem

This research examines the affects of a study skills course on student attitudes and grades. The basic question to be answered is, does a student's participation in a study skills course significantly affect his attitude towards college and/or his grades received in college? An underlying assumption was that a student's attitude towards college and his grades would have a direct bearing on his success in college.

## Objectives of the Study

This research project had two objectives:

1) To examine if a study skills course would significantly affect the grades of a participating student.

2) To examine if a study skills course would significantly affect the attitudes towards college of a participating student.

## BACKGROUND AND SIGNIFICANCE

### Review of the Literature

Many studies have been done showing a high positive correlation between study skills and general academic achievement. For example, Bernard Kelner (1961) writes:

> The difference between good and poor pupils is not a matter of money, luck or personality; rather it lies in the use of one's ability to make the greatest use of the knowledge of how to study.

Weinstein and Gipple (1974) studied 104 freshmen and 78 sophomores at the University of Washington School of Medicine. They used Wrenn's Study-Habit Inventory, undergraduate grade point average, Medical College Admissions Test scores, and number of failing grades in medical school. Their results indicated that Study-Habit scores were highly related to all other measures of achievement and that this correlation was higher for freshmen than sophomores.

In a study of eighty-one students at the University of Portland, Donna Corlett (1974) found a significant correlation between grade point average and study skills at the .05 significance level.

Hinrichsen (1972) relates an experiment using 144 students at Vanderbilt University in which participants estimated the length of time they engaged in study, the number and length of time of interruptions during the study period, and the number of days each week that they studied. It was found that the best single predictor of

grade point average was the Scholastic Aptitude Test - Verbal scores. The predictive accuracy of the student's grade point average was increased significantly when the results of a test anxiety score and the amount of effective study time per week were utilized in a predictive equation.

Other studies have considered the relationship between grades and attitudes. Greiner and Karsly (1976) studied ninety-six students and the effects of self-controlled training on study activities and academic performance. Students received training in Robinson's (1970) SQ3R study methods. The results indicated a significant difference at the .001 level for both grade point average and results on the Brown Holtzman (1967) Survey fo Study Habits and Attitudes.

A study conducted by Lovie Borchardt at Floyd Junior College in Georgia included a course in learning good techniques of study, how to listen well, the mechanics of the actual reading process, and in persistent reading practice. The researcher reported that remarkable results have been evidenced for all students enrolled in the course and in some instances the results were phenomenal in both grade achievement and attitudinal improvement.

A study conducted by McCausland and Steward (1974) on 106 students in an introductory psychology course used the Brown-Holtzman Survey of Study Habits and Attitudes. Scores were compared with first semester grade point average

using analysis of variance and multiple linear regression. The results indicated that the SSHA accounted for eighteen per cent of the variance in first semester college grade point average.

Packwood (1973) administered a forty item Motivational Check-Sheet to 703 freshmen at the University of Minnesota. The high school rank and American College Test Scores of all 1,085 entering freshmen were used in a regression equation to predict the first quarter grades and to divide the sample into overachievers and underachievers. Results showed that twenty-seven items significantly discriminated between the underachievers and the overachievers.

The literature suggest that many institutions have begun to realize the affects of study skills on academic success. Richards (1976) assigned eighty-seven students to four different groups. He used a no-contact control group, a no-treatment control group, a study skills advice group, and a study skills advice plus self-monitoring group. The results of his research indicated that the combined treatment group improved more than the study skills advice group which in turn did better than the control groups.

Jackson and Zoost (1974) developed an eight-session study skills program containing thirty students. The students were self-paced and self-evaluated with one half of the group used to teach study skills to the other half. Both groups improved on the Suinn Anxiety Behavior Scale

and the Brown-Holtzman Survey of Study Habits and Attitudes. The teaching group showed more improvement than the non-teaching group on both measures.

Finally, in a study done at York College by J. Pierog (1976) a positive correlation was found between student scores on the Brown-Holtzman Survey of Study Habits and Attitudes and their respective grade point averages. Pierog states that his results provide further justification for the establishment of a developmental course in study skills. He also recommends that further studies be carried out to aid in the justification and establishment of a study skills course at York College.

Summary of the Research

The current literature suggest the following:

1) There is a high positive correlation between proficient study skills and general academic achievement.

2) There is a high positive correlation between motivation and general academic achievement.

3) That students believe that study skills have a direct bearing upon academic success.

4) That study skills courses and seminars at various institutions have increased both the study skills and student motivation.

5) That increases in motivation and academic achievement will increase the chances of a student being successful in college.

Definition of Terms

1) Academic achievement - Measured in terms of mid-term below average grades. This was a grade of D or F given to students during the seventh week of class indicating unsatisfactory performance. This grade was one of the dependent variables.

2) Control group - Students who participated in the research who were matched by sex, high school rank, Scholastic Aptitude Test and Intelligence Quotients to the experimental group. The twenty-two members of the control group were given the pre and post Brown-Holtzman Survey of Study Habits and Attitudes but did not participate in the study skills course.

3) Experimental group - Students who participated in the research who were matched by sex, high school rank, Scholastic Aptitude Test and Intelligence Quotients to the control group. The twenty-two members of the experimental group were given the pre and post Brown-Holtzman Survey of Study Habits and Attitudes and also took part in the study skills course.

4) Intervening variables - Health, marital status, socio-economic status, extra-curricular involvement, and social adjustment.

5) Student attitude - Measured by the Brown-Holtzman Survey of Study Habits and Attitudes (SSHA), Form C, the Educational Acceptance Scale. See Appendix I. This instrument was chosen because of its tested validity and reliability and its wide use in the literature. A dependent variable.

6) Study skills course - A course including taking notes in class, taking test, writing reports, preparing for test and reading textbooks. See Appendix II. This was the independent variable.

Limitations of the Study

1) The extent to which the Brown-Holtzman SSHA measures student attitude limits the accuracy of the study.

2) The extent to which the mid-term below average grade determines academic achievement limits the accuracy of the study.

3) Any of the intervening variables may limit the accuracy of this study.

4) The general attitude of the subjects in the study at the time the test instrument is administered may limit the accuracy of this study.

5) Because of the small sample size, twenty-two in each group, there is the possibility of contamination.

6) The extent to which the control group adequately reflects the charateristics of the experimental group before treatment affects the validity of this study.

7) The extent to which the participants in this study reflect the characteristics of future students at York College affects the internal generalization of results.

8) The extent to which York College compares to other colleges limits the external validity of this study.

Basic Assumptions

1) It was assumed that the limitations would not adversly affect the results of this study.

2) It was assumed that the possible intervening variables would not adversly affect the results of this study.

3) It was assumed that students participating in this study would understand and accurately respond to the survey instrument.

4) It was assumed that an improvement in study skills would improve the students academic achievement and attitude and thus reduce attrition.

5) It was assumed that the investigation of a rather small group of subjects would yield results indicative of a larger population.

6) It was assumed that the experimental and control groups would be equal before treatment.

7) It was assumed that the students volunteering for this study would have reasonable room for improvement of their study skills.

## PROCEDURES

### Study Design

This research studied the effects of a study skills course on both academic achievement and student attitude. The study skills course included study schedules, study location, taking notes, listening effectively, class discussion, taking test, outlining, writing themes and using the library. (See Appendix II for a course syllabus.) Academic achievement was meacured by mid-term below average grades. Student attitude was measured by the Brown-Holtzman Survey of Study Habits and Attitudes (SSHA). (See Appendix I for a copy of the test instrument.)

Statistically a chi square test between the number of credits of below average grades received by the students in the control group and the number of credits of below average grades received by the students in the experimental group was conducted to test for a significant difference in academic achievement. An additional chi square test between the number of credits of F grades received by students in the control group and the number of credits of F grades received by students in the experimental group was conducted to test for a significant difference in academic achievement. A t test between the pre SSHA post SSHA difference between the control group and the experimental group was conducted to test for a significant difference in attitude.

Sample

The population used consisted of first semester freshmen resident students who volunteered to attend the study skills course. From the original group of forty-four volunteers, two groups of twenty-two were formed using matched pairs sampling techniques. Pairs were matched on sex, high school rank, Scholastic Aptitude Test Scores, and intelligence quotients. One group was arbitrarly chosen to be the experimental group receiving the study skills course. The other group became the control group and received no treatment.

The Admissions Office reports the following statistics on the class admitted in the fall of 1977: Intelligence quotient average of 113 with a range of 84 to 146; high school rank average of 2.54 with 24% in the top fifth, 25% in the second fifth, 20% in the third fifth, 16% in the fourth fifth, 7% in the bottom fifth, and 8% unranked; and Scholastic Aptitude Test Score averages of 930 with a range of 610 to 1320.

Assessment Instrument

The Survey of Study Habits and Attitudes, Brown-Holtzman (1967), was developed to measure study methods, motivation for studying and certain other attitudes towards study which are important in the classroom. (See Appendix I for a copy of the instrument.) The instrument has been used to identify and understand students whose study habits and

attitudes differ from those of students who earn high grades. The instrument has also provided a basis for helping the student in academic difficulties improve his study habits and attitudes and thus more fully realize his best potential.

Validity. Brown and Holtzman (1967) report that, "the average validity coefficient across ten colleges was .42 and .45 for men and women respectively". This included studies of 1,756 men and 1,118 women.

Reliability. Several studies have indicated that the four subscale scores are sufficiently stable through time to justify their use in predicting future behavior. Brown and Holtzman (1967) studied 465 freshmen at Southwest Texas State College in the fall of 1960. They found reliability coefficients for the four basic subscales that ranged from .87 to .89. The Educational Acceptance subscale had a stability coefficient of .90 after a four week interval and .85 after a fourteen week interval.

Procedures for Collecting the Data

1) During the fall registration period the twenty-five item Brown-Holtzman SSHA, Educational Acceptance subtest, was administered to all students volunteering for the study skills course. This included both the experimental and the control groups.

2) The experimental group was exposed to four two-hour study skills seminars over a two-week period. (See appendix II for a course syllabus.)

3) At the conclusion of the study skills course the Brown-Holtzman SSHA test was again administered to the experimental group.

4) At the conclusion of the study skills course the Brown-Holtzman SSHA test was again administered to the control group.

5) After the seventh week of classes mid-term below average grades were obtained for the students in both groups.

Note - All information required for this study was obtained from the records found in the computer center, Records Office, and Admissions Office of York College of Pennsylvania.

Procedures for Treating the Data

1) The number of credits of mid-term below average grades and the number of credits of mid-term F grades was calculated for each group (See Appendix III).

2) The mean and standard deviations for the pre SSHA post SSHA test differences for both the control and the experimental groups was calculated (See Appendix IV).

3) A chi-square test was utilized to compare the number of credits of below average grades received by students in the experimental group with the number of below

average grades received by students in the control group. The following null hypothesis was tested:

There is no significant difference between the number of credits of below average grades received by students in the control group and the number of credits of below average grades received by students in the experimental group.

The level of significance for testing this hypothesis was .05 and it was a one-tailed test at the .95 percentile value.

4) A chi-square test was utilized to compare the number of credits of mid-term F's received by students in the experimental group with the number of credits of mid-term F's received by students in the control group. The following null hypothesis was tested:

There is no significant difference between the number of credits of mid-term F's received by students in the experimental group with the number of credits of mid-term F's received by students in the control group.

The level of significance for testing this hypothesis was .05 and it was a one-tailed test at the .95 percentile value.

5) A t test was utilized to compare the mean pre SSHA post SSHA test differences of the two groups. The following null hypothesis was tested:

There is no significant difference between the mean pre SSHA post SSHA test difference of the control group and the mean pre SSHA post SSHA test difference of the experimental group.

The level of significance for testing this hypothesis was .05 and it was a one-tailed test at the .95 percentile value.

## RESULTS

Appendix III contains a table of the mid-term grades received by both the control and experimental group. The following null hypothesis was tested through the use of a chi-square test:

### Hypothesis One

There is no significant difference between the number of credits of below average grades received by students in the control group and the number of credits of below average grades received by students in the experimental group at mid-term.

| | |
|---|---|
| Null Hypothesis | $H_0$: $\Pi_{Pc} = \Pi_{Pe}$ |
| Alternate Hypothesis | $H_a$: $\Pi_{Pc} < \Pi_{Pe}$ |
| Level of Significance | $\alpha = .05$ |
| Degrees of Freedom | 1 |
| Critical $X^2$ Value | 3.84 |
| One-tailed Test | .95 percentile value |

$H_o$ must be rejected and $H_a$ accepted if $X^2 > 3.84$.

The following table was used for calculation of the chi-square value.

Table 1

Credits of Mid-term Below Average Grades

| Grades | Control Group | Experimental Group | Total |
|---|---|---|---|
| A B C | 223 | 289 | 512 |
| D F | 53 | 42 | 95 |
| Total | 276 | 331 | 607 |

Calculated $X^2 = 4.84$

The above table reveals that fifty-three of the 276 credits taken by the control group were graded below average, while forty-two of the 331 credits taken by the experimental group were graded below average. Since the calculated $X^2$ value of 4.84 exceeds the critical $X^2$ value of 3.84, the researcher therefore concludes that the experimental group received a significantly less number of credits of mid-term below average grades than did the control group.

Because of the results of the data shown in Appendix III, the researcher tested the following null hypothesis using a chi square test:

Hypothesis Two

There is no significant difference between the number of credits of F's received by students in the control group and the number of credits of F's received by students in the experimental group at mid-term.

| | |
|---|---|
| Null Hypothesis | $H_o: \Pi_{Pc} = \Pi_{Pe}$ |
| Alternate Hypothesis | $H_a: \Pi_{Pc} < \Pi_{Pe}$ |
| Level of Significance | $\alpha = .05$ |
| Degrees of Freedom | 1 |
| Critical $X^2$ Value | 3.84 |
| One-tailed Test | .95 percentile value |

$H_o$ must be rejected and $H_a$ accepted if $X^2 > 3.84$.

The following table was used for calculation of the chi square.

Table 2

Credits of Mid-term F Grades

| Grades | Control Group | Experimental Group | Total |
|---|---|---|---|
| A B C D | 250 | 327 | 577 |
| F | 26 | 4 | 30 |
| Total | 276 | 331 | 607 |

Calculated $X^2 = 19.89$

The above table reveals that twenty-six of the 276 credits taken by the control group were grades of F, while four of the 331 credits taken by the experimental group were grades of F. Since the calculated $X^2$ value of 19.89 exceeds the critical $X^2$ value of 3.84, the researcher must reject the null hypothesis. The researcher therefore concludes that the experimental group received a significantly less number of mid-term F grades than did the control group.

Appendix IV contains a table of the scores received by both the control and experimental groups on the Brown-Holtzman Survey of Study Habits and Attitudes. A t test was used to test the following hypothesis:

Hypothesis Three

There is no significant difference between the mean pre SSHA post SSHA test difference of the control group and the mean pre SSHA post SSHA test difference of the experimental group.

| | |
|---|---|
| Null Hypothesis | $H_o: \bar{X} = \bar{Y}$ |
| Alternate Hyopthesis | $H_a: \bar{X} \quad \bar{Y}$ |
| Level of Significance | $\alpha = .05$ |
| Degrees of Freedom | 37 |
| Critical t Value | 2.042 |
| One-tailed Test | .95 percentile value |

$H_o$ must be rejected and $H_a$ accepted if $t > 2.042$.

The results of the calculations are contained in Table 3 which follows.

Table 3

Statistics for
Brown-Holtzman SSHA

| Control Group | Experimental Group |
|---|---|
| $N_x = 18$ | $N_y = 21$ |
| $\Sigma X = -1$ | $\Sigma Y = 123$ |
| $\Sigma X^2 = 565$ | $\Sigma Y^2 = 1105$ |
| $\bar{X} = -0.056$ | $\bar{Y} = 5.857$ |
| $\sigma_x = 5.765$ | $\sigma_y = 4.385$ |
| Calculated t value = 3.634 | |

The above table records the calculated statistics comparing the mean pre-post SSHA test difference of the control group with the mean pre-post SSHA test difference of the experimental group. Designated respectively are: the number in each group; sum of the score differences; sum of the score differences squared; mean of the score differences; and the standard deviation of ths score differences. Since the calculated t value of 3.634 exceeds the critical t value of 2.042, the null hypothesis must be rejected. The researcher thus concludes that the experimental group had a significantly larger mean pre-post SSHA test difference that the control group.

# DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

## Discussion and Implications

The results of the calculations in Table 1 clearly show that the students participating in the study skills course received fewer credits of below average grades at mid-term than those not participating in the course. The results of the calculations in Table 2 are even more dramatic. In fact, only one student who participated in the study skills course received a grade of F in one four credit course. At the same time, five students in the control group received a grade of F in a total of eight courses. This research supports the literature in demonstrating that participation in a study skills course significantly improves academic achievement as measured by grades received in other courses.

The fact that the experimental group received far fewer grades of F surely should have a positive affect on the attrition rate of these students. If a future study substantiates this observation then the need for a study skills course will be even more evident. As the possible college student population decreases in the future, as most demographic studies have indicated, the need to reduce attrition will be critical.

Appendix IV and Table 3 clearly indicate that the attitude of students as measured by the Brown-Holtzman SSHA, Educational Acceptance scale, is significantly improved by participation in a study skills course. The research by Call (1976) which indicated that York College ultimately loses fifty-two per cent of it freshman class before graduation and the research conducted by Walker and related by Cope (1968) which attributes one-third of college withdraws to academic reasons and one-third to motivational forces comes to mind. Thus, participation in a study skills course could have a positive affect on reducing the attrition rate by as much as thirty-five per cent. In addition the study skills course would have a positive affect on all those students participating and would allow each student to more fully reach his or her potential in college.

Recommendations

A copy of this research will be presented to the Curriculum and Catalog Committee of the College. This will support the other research conducted at the college by Pierog (1976) in demonstrating a need for a study skills course.

A copy of this research will be presented to the Dean of Academic Affairs of the college. It is hoped that this research will prompt the dean to encourage the development of a study skills course.

Specifically, the following recommendations are made:

1) that, a study skills course be offered each fall semester;

2) that, entering freshmen with admissions records that indicate probable academic difficulty be required to take a study skills course;

3) that, other students who desire a course in study skills be encouraged to take it;

4) that, different formats and methods of presenting a study skills course be studied;

5) that, further studies be undertaken to research the attrition rate of students taking a study skills course; and

6) that, further studies be undertaken to research the grade point averages after the first semester, the first year, the second year, the third year, and the final year, of students taking a study skills course.

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